US EPA RECORDS CENTER REGION 5
474111

Possible Questions for U.S. EPA and Arcadis/BBL
March 19, 2007

Since the upcoming Plainwell Impoundment TCRA has implications on activities planned for Weyerhaeuser's two operable units (OUs) along the Kalamazoo River, Weyerhaeuser and RMT have reviewed the Design Report and developed some initial questions. These questions are intended to help Weyerhaeuser identify and evaluate potential responses to their OUs that are compatible with both the activities and the schedule of the TCRA. Some of this information may already be available in past documents that we have not yet thoroughly reviewed. If so, please accept our apology in advance for not having discovered the data and direct us to the applicable reference.

12th Street Landfill Operable Unit

- To ensure that the shoreline erosion control along the 12th Street Landfill is compatible with the TCRA project.
- To assess the U.S. EPA-selected remedy for the 12th Street Landfill for compatibility with the TCRA project.

We would like to determine if the following data are available for review:

1. The velocity, stage, and shear stresses along the west bank of the Kalamazoo River downstream from the Plainwell Dam for the 2-year, 10-year, and 500-year flood events ("prism-in" and "prism-out" model geometries).

Response: A MS Excel spreadsheet of velocity, stage, and shear stress at 50-foot intervals along the west bank downstream of the Plainwell Dam is attached for the 2-year, 10-year, and 100-year flood events (the 100-year flood event was the maximum flood event simulated). The locations are included in a figure in the MS Excel file.

2. The geometry of the model cross sections for the river downstream from the to-be-modified western channel for the "prism-in" and "prism-out" model runs, following completion of the TCRA (*i.e.*, post dam removal).

Response: The cross-sections of the Kalamazoo River downstream of the Plainwell Dam at 50-ft intervals are included in the attached MS Excel spreadsheet.

3. Information on the reliability of supporting data used to define river geometry for the model runs (*i.e.*, sediment probing data and bathymetry). In other words, what is your level of confidence in the data used for this evaluation.

Response: We are confident that the supporting data used to define river geometry as well as evaluate potential impacts was sufficient to answer the study questions for the former Plainwell Impoundment as well as to evaluate the potential conditions downstream of the Plainwell Dam. As described in Attachment E of the TCRA report, surveyed topography and bathymetry data are not available for a stretch of the river between the point where recent survey data end (downstream of the former Plainwell Impoundment) and USGS Transect A7. Only a portion of the river channel in the vicinity of 12th Landfill Operable Unit was covered by the survey. To fill this data gap, the USGS data were used to estimate the elevations assigned in the model mesh. Variations in the river cross-sections (if any) since the time of the USGS data collection would influence the downstream water surface elevation and depth-averaged velocity predictions.

Sediment probing was not performed in this area to measure the thickness of sediments above the pre-impoundment bed. The model results suggest that the soft sediments that have accumulated over time in this

area will be remobilized and transported downstream during and after the removal action. Simulations of the eroded downstream sediment bed in the west channel were not performed.

Plainwell Mill Site

- To obtain the most current and complete information on the banks and sediments along the Plainwell Mill site.
- To clarify sampling procedures that allow more accurate data interpretation.

We would like to determine if the following data is available for review:

1. The velocity, stage, and shear stresses along the west bank of the Kalamazoo River along the Plainwell Mill year for the 2-year, 10-year, and 500-year flood events, following completion of the TCRA (*i.e.*, post dam removal) ("prism-in" and "prism-out" model geometries).
2. Any information on the top of bank elevations and river bathymetry along the mill site.
3. Clarification (as needed) for sampling protocols on bank soils collection activities, types of samples, depths, etc.

There will be minimal impact on the hydraulics of Kalamazoo River near the Plainwell Mill Site from the removal of the Plainwell Dam and the restoration of the Kalamazoo River to free-flowing conditions. The Kalamazoo River upstream of the US 131 Bridge is currently a free-flowing section of the river (outside of the backwater effects of the impoundment). As shown on Figure E-15 of Attachment E, the model results for the 2-year and 10-year flows simulations show that the US 131 Bridge crossing acts as a hydraulic control. As shown on Figure E-10, the hydrodynamic model grid covers only a portion of the Plainwell Mill Site. Following your review of the design report, in particular the model grid described in Attachment E, we can then determine if information similar to that provided above can be developed.

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